Pig's Eye Dump Rail Yard Expansion

Wetland Replacement and Flood Control Plan

Prepared for
Marathon Petroleum Company

October 2008

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1.0 Introduction

On behalf of the Marathon Petroleum Company, LLC (Marathon), Barr Engineering Company is submitting a Wetland Replacement and Flood Control Plan in preparation for a proposed rail yard expansion project at the Pig's Eye site located east of Warner Road and the Mississippi River, west of Highway 61 and south of Interstate Highway 94. The project site is located in the southwest quarter of Section 3 and the southeast quarter of Section 4, Township 28, Range 22, City of St. Paul, Ramsey County, Minnesota as shown on Figure 1.

In order to manage the current and future railcar transportation into and out of the St. Paul Park refinery, Marathon has the need to develop a rail yard to meet a minimum storage capacity of 150 railcars. A feasibility study (Barr, 2005) was completed in November 2005, in which three locations for rail yard expansion were evaluated. Two locations were adjacent to the St. Paul Park refinery while the third was located off-site. The feasibility study recommended the off-site rail yard facility located at the Pig's Eye Site. The project site is owned by Canadian Pacific Railway (CP) but is which is expected to leased the facility to by Marathon. An Environmnetal Assessment Worksheet (EAW) for this proposed facility will be submitted. In addition, a permit application for stormwater management will be submitted to the Ramsey-Washington Metro Watershed District (RWMWD) by TKDA on behalf of Marathon.

This Plan has been prepared in accordance with the requirements of the following rules and regulations:

- 1991 Wetland Conservation Act (WCA) as administered by the City of St. Paul,
- Section 404 of the Clean Water Act administered by the U.S. Army Corps of Engineers (Corps).
- Rule D – Flood Control as administered by RWMWD, and
- Rule E – Wetland Management as administered by the RWMWD.

The wetland boundaries within the project area were delineated on November 18, 2005, confirmed on May 5, 2006 (Barr, 2006), and verified by the regulatory agencies on April 24, 2008. This Plan includes background information describing the history of the site (Section 2.0), a description of the proposed project (Section 3.0), a discussion of alternatives to the proposed project (Section 4.0), a

description of the environmental setting (Section 5.0), descriptions of the delineated wetlands within the site (Section 6.0), a description of the wetland impacts due to the proposed project and a wetland mitigation plan (Section 7.0), and finally a flood control plan (Section 8.0).

A site location map is provided on Figure 1. The wetland delineations are shown on Figure 2. The National Wetland Inventory map data is provided on Figure 3. The MnDNR Public Waters and Wetlands map is provided on Figure 4. A map of the Ramsey County Soil Survey within the project area is provided in Figure 5. The project wetland impacts are shown on Figure 6. Figure 7 shows the RWMWD Rule E Buffer Widths surrounding the wetlands. A signed *Combined Project Application Form* has been completed for the project and is attached in Appendix A. An *Application for Withdrawal of Wetland Credits* is provided in Appendix B. The preliminary project construction plans and cross sections are provided in Appendix C. Historical aerial imagery of the site is provided in Appendix D. Wetland Data Forms for the delineated wetlands are included in Appendix E. Photographs of the delineated wetlands taken on-site are located in Appendix F. Appendix G contains summaries of wetland assessment results. Appendix H shows the areas of soil remediation and backfill within the project site. Appendix I contains a *Conditional Use Permit Application* for the City of St. Paul. Appendix J includes an *Application for Wetland Determination* for the City of St. Paul.

2.0 Background

In order to manage the current and future railcar transportation into and out of the St. Paul Park refinery, Marathon has the need to develop a railyard to meet a minimum storage capacity of 150 railcars. The proposed location for this railcar facility is the Pigs Eye site, which is located about six miles north of the refinery and immediately adjacent to the existing St. Paul Yard. The location of the proposed railyard is currently owned by CP, and has the development capacity to store approximately 170 railcars (8.4 million gallons of petroleum storage capacity).

2.1 Site Location and Description

The site encompasses approximately 18 acres within the designated 100-year flood plain of the Mississippi River. The 100-year flood elevation in this location is 706.3 feet above mean sea level (MSL). The surrounding area is primarily used for rail and barge transportation activities. The City of St. Paul also operates a demolition landfill and composting site in the area. Environmental remediation activities have been conducted at the site (MPCA VIC site VP7531). The remediation activities included partial removal of dump materials to a depth of approximately 4 to 6 feet within the proposed railyard construction limits. The dump materials were replaced with a geotextile fabric overlain with clean compacted aggregate fill to an approximate elevation of 701 feet MSL, in accordance with an Agreement between the City of St. Paul and CP and a backfill plan approved by the MPCA (RETEC, 2005).

3.0 Project Need and Description

3.1 Project Need

Marathon needs to develop a rail yard to store a minimum of 150 railcars to maintain current and future operations at the St. Paul Park Refinery. This facility will improve the logistics of railcar movement into and out of the refinery.

3.2 Project Plan Description

The project consists of the construction of a new rail yard adjacent to the existing St. Paul Yard. Preliminary project construction plans are included in Appendix C. The proposed rail yard consists of access roads, modified site entrances, and the addition of approximately 3,000 feet of track length varying from 1 to 8 tracks in width. The total project area is approximately 18 acres. Storm sewer, water main piping, fencing, and access roads are ancillary components of the project.

3.3 Adjoining Property Ownership

CP owns the property and operates a rail yard north of the proposed expansion site. The City of St. Paul also operates a demolition landfill and composting site in the area. Pig's Eye Lake Road adjoins to the west. The Metropolitan Council's Pigs Eye Wastewater Treatment Plant is located to the southwest of this site.

4.0 Sequencing Analysis

Following is a discussion of alternatives and efforts to minimize wetland impacts in accordance with the sequencing requirements in M.R. 8420.0520. Two alternatives that avoid wetland impacts are considered and the reasons why they are not feasible and prudent are provided. In addition, the proposed alternative is presented along with a discussion of why it is the only feasible and prudent alternative.

4.1 No Build Alternative

The no build alternative was evaluated, and while it would not result in any wetland impacts, it is not a feasible or prudent option. Marathon needs a rail yard facility for storing at least 150 railcars. The no-build alternative would not meet Marathon's project goals. Due to these issues, the no build alternative was determined to not be feasible or prudent.

4.2 Wetland Avoidance Alternative – Alternate Site Location

Several existing railroad locations outside of the Metro area were evaluated for the new rail yard. These sites were ruled out because suitable connections could not be made with the existing rail system that would enable connection with the refinery. Alternative project sites are limited to areas with access to the CP main line, which affords access to the Marathon Refinery where the stored cars will originate from or be delivered to. A feasibility study compared the Pig's Eye site with a site at the Marathon refinery. Constructing the rail yard at the Refinery Site would avoid wetland impact; however, it would not provide sufficient railcar storage. Marathon needs rail yard facility for at least 150 railcars. The Refinery Site would develop a capacity for only 45 railcars. In comparison, the Pig's Eye Site would provide capacity for 170 railcars. In addition, developing the Refinery Site would require that the property be re-zoned in the northern portion within the City of Newport. The refinery property would need to be re-zoned from light industrial (I-1) to industrial storage (I-S). It is very likely that this zoning change would face opposition. Developing a rail yard facility at the Refinery Site would likely not impact wetlands; however, it would not meet the project storage capacity goals and would require rezoning, therefore, development of the Refinery Site was determined to not be feasible.

4.3 Bridging Wetland A

Wetland A is located between the proposed rail yard expansion and the existing rail line. One alternative to avoid filling a portion of Wetland A for this connection is to construct a bridge over the

wetland. While it is thought that a bridge would avoid fill in Wetland A, due to the existing rail elevations and the required elevations of the proposed rail yard expansion, a bridge would not avoid fill in Wetland A. The thickness of a bridge from the top of rail to the bottom of the pier cap would be approximately 7.5 feet plus 2.0 feet for clearance/flow area, which would mean the bridge would be buried in the wetland, thus wetland fill could not be avoided.

In addition, a bridge would result in the following problems:

- Adding a bridge increases safety risks for workers as they are working on a structure.
- A bridge would unreasonably increase maintenance requirements.
- The bridge would be located on a curve and in a turnout/switch, which is not standard.

4.4 Proposed Alternative

The proposed alternative described in Section 3.0 is the only feasible and prudent alternative to achieve Marathon's project goals. The proposed alternative avoids and minimizes regulated wetland impacts to the greatest extent practicable.

Preliminary plans for the proposed rail yard have been prepared by TKDA and are included in Appendix C. The preliminary plans have been developed to minimize wetland impacts given the various location constraints. Figure 6 shows the associated wetland impacts. While the proposed rail yard avoids impacts to the majority of Wetland A, a portion of fill in Wetland A is required to provide a connection from the existing rail line to the proposed rail yard. The existing rail line is fixed and the proposed connection near Wetland A was selected to eliminate impacts to Battle Creek. A culvert is proposed across the wetland fill section to maintain the hydrologic connection within Wetland A. The culvert is proposed to be installed at the existing ground surface elevation under the tracks. The proposed rail yard is constrained to the south by an environmental berm (Figure 2). The proposed rail yard is designed to limit wetland impacts as much as possible while meeting the project railcar capacity requirements and maintaining the necessary horizontal curvatures. The turnouts have been located as far west as possible so that the track narrows at the east end to limit the amount of wetland impact (see Appendix C, Figure 2). Portions of the infiltration basin/drainage ditch (Wetland B) would require fill; however, this is not a natural wetland and is exempt from the WCA since it is an incidental impoundment constructed solely for the purpose of storm water retention. Due to railway connections, alignment constraints, the environmental berm to the south, and Battle Creek to the east, the proposed plan is the only practicable alignment for the location of the proposed rail yard.

5.0 General Environmental Setting

5.1 Soils

The Ramsey County Soil Survey (Figure 4) maps the evaluation area as udorthents, wet substratum. Udorthents, wet substratum are areas of disturbed soils where the upper soil material has been removed, filled or graded. They are moderately well drained, gravelly and sandy soil areas located within areas of glacial fluvial deposits.

5.2 Upland Vegetation

The majority of the site surrounding the delineated wetlands consists of existing rail lines, buildings, a dump and composting site, roads, parking lots, and recently graded soil surfaces. The vegetation in the upland portions of the site consists of spotted knapweed (*Centaurea biebersteinii*), birdsfoot trefoil (*Lotus corniculatus*), reed canary grass (*Phalaris arundinacea*), Canadian thistle (*Cirsium arvense*), catnip (*Nepeta cataria*), cottonwood (*Populus deltoides*), aster (*Aster spp.*), goldenrod (*Solidago spp.*), dandelion (*Taraxacum officinale*), and brome grass (*Bromus inermis*).

5.3 Surface Water Drainage

Stormwater on the western portion of the site drains into Wetland B and evaporates or infiltrates after rainfall events. During extreme rainfall events, runoff will overflow to the eastern portion of the site. Wetland A receives overland flow in the eastern portion of the site and discharges into Battle Creek through a 15-inch culvert (Appendix C).

Battle Creek flows westward from the RWMWD Drainage Area C-72 under Highway 61 into RWMWD Drainage Area STP-00 and continues northwest along the railroad tracks where it combines with discharge from Little Pig's Eye Lake (MNDNR Protected Water 62-234 W). The creek flows to the south/southwest across the railroad tracks where Wetland A discharges into Battle Creek. The creek continues to flow south/southeast through the site and into Pigs Eye Lake (MNDNR Protected Water 62-4 P, Figure 5).

Additional watershed conditions and proposed stormwater management plans are described in the permit application for stormwater management and erosion and sediment control submitted to RWMWD on March 12, 2008.

6.0 Wetland Delineation

6.1 Wetland Delineation and Classification Methods

The wetlands within the defined study area were identified and delineated during site visits on November 18, 2005 and May 5, 2006.

The wetland delineations were established according to the Routine On-Site Determination Method specified in the 1987 Corps of Ea ngineers Wetland Delineation Manual. The wetland boundaries were delineated with pin flags that were numbered and placed at intervals of approximately 20 to 50 feet. The wetland boundaries were surveyed for horizontal control using a Global Positioning System with sub-meter accuracy.

The National Wetland Inventory map is provided in Figure 3. Information on soil types within the evaluation area was obtained from the Soil Conservation Service (SCS) Soil Survey for Ramsey County (Figure 4). Numerous shallow soil borings were placed in and around the wetlands, to a depth of at least 18 inches below the ground surface whenever possible. Representative soil samples from each boring were examined for hydric soil indicators. Soil colors (e.g., 7.5YR 4/2, etc.) were determined with the aid of a Munsell® soil color chart and noted on the Wetland Data Forms (Appendix E). The hydrologic conditions were evaluated at each soil boring and are also noted on the Wetland Data Forms.

The delineated wetlands (Figure 2) were classified using the U.S. Fish and Wildlife Service Circular 39 Wetland Classification System (Types 1, 2, 3, etc.), the U.S. Fish and Wildlife Service Cowardin Wetland Classification System (PEMB, PSSC, PFOB, etc.), and the Eggers and Reed Community types. The dominant plant species in each wetland were identified, and the corresponding wetland indicator status of each plant species was determined and noted on the Wetland Data Forms. Photographs of each wetland are provided in Appendix F. A summary of the wetland classifications and wetland areas are provided in Table 1.

6.2 Aerial Photograph Interpretations 1937- 2006

The 1937 through 1953 aerial photographs show the evaluation area as partially natural wetland and partially a dump (Appendix D). In 1966, the majority of the project area is disturbed by what appears to be the dump and the general shape of Wetland A is evident. Battle Creek appears to have been straightened through the eastern portion of the site as well as south of the evaluation area as evidenced in the 1980 photograph. The historical aerial photos from 1937 through 1980 show that

Wetland B is a recently added feature that did not exist previously. It appears that Wetland B developed after 2000 and before 2002. Significant development to the north of the evaluation area is evident by 1991. The 1997 imagery captures the inundation from the severe flood conditions. The 2000 imagery shows the environmental berm construction as part of the remediation of the site as approved by the MPCA. The photographs dating back to 1937 show evidence of some wetlands within the evaluation area throughout this time; however, it is not until the environmental berm construction and the preparation for the new building construction in 2000 that the wetlands take on their currently defined shape. Earthwork to the south of Wetland A is shown in the 2004 photograph. Evidence of inundation within most of the delineated wetlands is shown in photographs from 1997, 2000, 2002, 2003, and 2004.

6.3 Wetland Descriptions

- **Wetland A** is a 6.05 acre Type 2/3/1 (PEMB/C/FOA) wet meadow/shallow marsh/floodplain forest, located along the northeastern portion of the evaluation area (Figure 2). This wetland receives stormwater runoff from railroad tracks to the north, parking lots to the north and west, and the environmental berm and vacant covered dump area from the south. The wetland discharges to the east into Battle Creek.

  The dominant vegetation found in the wetland during the site visit includes cattails (*Typha sp.*), reed canary grass, boxelder (*Acer negundo*), sandbar willow (*Salix exigua*), black willow (*Salix nigra*), and cottonwood. Other species present in the wetland include stinging nettle (*Urtica dioica*), river bulrush (*Scirpus fluviatilis*), blue vervain (*Verbena hastata*), Canadian thistle, red stem aster (*Aster puniceus*), and bottlebrush sedge (*Carex comosa*).

  The typical soil profile in the wetland consists of 6 inches of black (10YR2/1) sandy muck, above 6 inches of brown (10YR5/3) sand with gravel and common yellowish red (5YR4/6) mottles. The underlying 19 inches consists of very dark gray (10YR3/1) mucky clay with common large prominent brownish yellow concentrations. Ten percent of the soil at this depth is black (10YR2/1) and 5 percent has gray (10YR5/1) depletions. The soil was saturated in the upper 12 inches along the wet meadow fringe and the wetland was inundated with as much as two feet of water during the November 2005 site visit.

- **Wetland B** is a 0.29 acre Type 3/2 (PEMC/B) incidental, man-made stormwater management basin/drainage ditch, which is located in the northwestern portion of the evaluation area (Figure 2). The wetland receives stormwater from surrounding roads, railroads, rail yard storage area, and parking lots. The southeast end of the wetland consists of a ditch, which receives stormwater

from the adjacent rail yard storage area. The wetland appears to act as an infiltration basin, as no outlet was found during the site visit. This man made drainage ditch does not have historical significance. The area was previously filled and has been graded for drainage purposes. Therefore, the wetland is considered to be incidental.

The dominant vegetation found in the wetland appears to be smartweed (*Polygonum sp.*). At the time of the site visit in November, vegetation was frost damaged and additional species were not identified.

The soil profile within the wetland consists of 16 inches of very dark gray (10YR3/1) sand (sediment) with muck above at least 4 inches of black (10YR2/1) clayey sand (sediment). The wetland was saturated within the upper 16 inches and contained pockets of ice up to ½ inch thick during the November site visit. The surface soil was cracked from previous inundation and drainage patterns were evident.

- **Wetland C** is a 0.13 acre Type 2/3 (PEMB/C) wet meadow/shallow marsh wetland located southeast of Wetland A (Figure 2). This incidental wetland is a narrow ditch which does not appear to have historical significance. It appears to have been formed during recent construction of berms on both the east and west sides. Overflow from the wetland discharges into Wetland A.

  Reed canary grass is the dominant vegetation within this wetland. Additional species include blue vervain, goldenrod, smartweed, and common reed (*Phragmites australis*).

  The typical soil profile within the wetland consists of 16 inches of dark grayish brown (10YR4/2) silty sand with yellowish brown (10YR5/6) mottles over at least 16 inches of dark gray (10YR4/1) silty sand. The wetland was not inundated at the time of the site visit; however, the soil was moist at the surface and saturated within the upper 16 inches. Drainage patterns were also evident in the wetland.

- **Wetland D** is a 0.04 acre Type 2 (PEMB) wet meadow drainage ditch at the far eastern portion of the evaluation area, and extends to the east outside of the evaluation area (Figure 2). This incidental ditch receives stormwater from the bordering railroad tracks to the north and upland berm to the south where it eventually discharges into Pigs Eye Lake. Pigs Eye Lake is listed as a Protected Water (62-4 P) by the MNDNR (Figure 5). The portion of this ditch which was delineated for this project is the far western edge of the ditch. The majority of the ditch is located east of the evaluation area.

The dominant vegetation found in the wetland includes reed canary grass, bottlebrush sedge, aster, goldenrod, and common reed.

The typical soil profile within the wetland consists of 12 inches of very dark grayish brown (10YR3/2) sandy muck with some very dark gray (10YR3/1) mottles and common dark yellowish brown (10YR4/6) concentrations. A soil profile below this layer was unattainable at the time of the site visit due to frozen soil conditions. The soil was not saturated in the upper 12 inches and there was no inundation during the November 2005 site visit, drainage patterns in the wetland showed evidence of water flowing to the east. This wetland continues to the east beyond the evaluation area.

- **Battle Creek** – The portion of Battle Creek which lies within the evaluation area was delineated at the time of the site visit. This 0.40 acre portion of Battle Creek is a Type 3/90 (PEMF/RUBG) shallow marsh/riverine system located in the eastern portion of the evaluation area (Figure 2). A rail bridge is located at the north end of the delineated area. Water from Little Pig's Eye (MNDNR Protected Water 62-234 W, Figure 5) discharges into Battle Creek. The water flows under this rail bridge and continues to the south. Wetland A discharges into Battle Creek through a culvert immediately southwest of the rail bridge. Battle Creek eventually flows into Pig's Eye Lake south of the evaluation area.

  The portion of Battle Creek within the evaluation area has an unconsolidated sandy bottom with reed canary grass, river bulrush, smartweed, and blue vervain along the sides.

  Soils within the creek are very dark gray (10YR3/1) sandy muck. The creek was inundated with as much as 6 inches of water at the time of the site visit and sedimentation drainage patterns were evident.

7.0 Wetland Impacts and Mitigation

7.1 Wetland Impacts

The proposed rail yard (Appendix C) would result in unavoidable impacts to 0.85 acres of wetlands (Table 1). Wetland impacts, based on the proposed project plan include:

- Fill in Wetland A to allow for the proposed rail yard connection to the existing rail line. As described in Section 4.4, the options for rail alignment are extremely limited by boundary constraints and alignment curvatures, allowing no alternative other than wetland fill in this area. The area where the proposed rail yard and roadway would impact Wetland A includes 0.12 ac. of Type 1 (floodplain forest), 0.19 ac. of Type 2 (wet meadow), and 0.48 ac. of Type 3 (shallow marsh) wetland fill totaling 0.79 acres within Wetland A.

- Fill in Wetland B to allow for the connection from existing track to the proposed rail line expansion. The impact on Wetland B includes 0.05 ac. of fill in Type 3 (shallow marsh) wetland at the north end and 0.01 ac. of fill in Type 2 (wet meadow) wetland along the ditch at the south end. This stormwater pond/drainage ditch is exempt from the WCA since it is an incidental impoundment constructed solely for the purpose of storm water retention. Historical imagery from 1937 through 2000 indicates that this is not a natural wetland basin (Appendix D). In preparation for the remediation work in 2006, the City of St. Paul concurred that this stormwater pond qualifies for an incidental exemption. Stormwater management for the rail yard project would be compensated in the ditches proposed alongside the north and south sides of the rail alignment according to the stormwater management permit application submitted to the RWMWD on March 12, 2008.

7.2 Wetland Mitigation

Wetland mitigation planning was conducted in accordance with the WCA replacement siting rules and guidelines from Section 404 of the Clean Water Act. The first consideration for wetland replacement was on-site within the project area. One possible area considered for wetland mitigation was south of Wetland A and adjacent to Wetland C and Battle Creek. However, there is limited area available within the property boundary and the property is not owned by Marathon. Even if mitigation were allowed by CP, excavation would not be feasible due to the presence of waste materials since this area was historically used as a dump. The remediation activities conducted at the site were designed to minimize disturbance of the waste materials and prevent contamination of

Battle Creek downstream (Appendix H). Additional excavation for the purpose of wetland creation is not prudent based on the potential for contaminant migration and human exposure.

The next consideration for wetland replacement siting is within the same minor watershed as the affected wetland. There are no wetland mitigation or banking opportunities available in the Mississippi River subwatershed #20088. Inquiries were made in search of opportunities beyond the BWSR listing of available credits, and no opportunities were found within the City of St. Paul or Ramsey County. There is one opportunity to purchase credits within the same major watershed; however, the available credits are not in-kind. The next area considered for wetland replacement is the wetland Bank Service Area #7. Wetland bank account #1287 is currently the only bank within Bank Service Area #7 with in-kind credits available. Marathon proposes to fulfill the wetland mitigation requirements through the purchase of credits from this bank. A draft credit withdrawal form is included in Appendix B. Since the impacts in Wetland B are exempt, wetland mitigation is proposed to compensate for unavoidable impacts to Wetland A. Wetland bank account #1287 has sufficient credits to replace the impacts in-kind, the wetland credits are already established, and they are located within the project bank service area, so wetland mitigation is proposed at a 2:1 ratio. The purchase would include 0.12 ac. of Type 1, 0.19 ac. of Type 2, and 0.48 ac. of Type 3 New Wetland Credits (NWC) and 0.79 ac. of Public Value Credit (PVC) for a total mitigation of 1.58 acres. Table 1 summarizes the plan for wetland mitigation.

8.0 RWMWD Rule D: Flood Control Plan

All earthwork will be conducted above the ordinary high water level (e.g., 693 feet MSL) and below the 100-year floodplain (e.g., 706.3 feet MSL). Rule D of the RWMWD's rules states that placement of fill within the 100-yr floodplain is prohibited unless compensatory storage is provided. Therefore, one criterion is that compensatory storage must be provided on the development or immediately adjacent to the development within the affected floodplain. Compensatory flood plain storage will be provided onsite by the proposed rail yard to fully offset the fill associated with this project. Net cut/fill calculations are detailed in the TKDA memorandum submitted to the RWMWD on July 18, 2008 (Appendix G) and show a slight excess of cut. Earthwork summary drawings are also provided in Appendix G. Cut will consist of existing clean cover soil and dump materials. All excavated dump materials will be removed for offsite disposal in accordance with an MPCA approved site development plan. Clean excess soil will be used to replace excavated dump materials and to provide a buffer between the dump materials and the final grade.

Supporting documentation has been provided in correspondence with the RWMWD – see Appendix G.

9.0 RWMWD Rule E: Wetland Management

The City of St. Paul administers the WCA for this site; however, certain wetland buffer and water quality criteria adopted in the RWMWD Wetland Management Rule E, are applicable whether or not the RWMWD is the WCA local government unit.

One criterion is that all stormwater must be treated to the water quality standard outlined in Rule C before discharge to a wetland. This criterion has been addressed in the RWMWD permit application submitted on March 12, 2008.

Another RWMWD criterion requires that buffers shall be established for all developments adjacent to a wetland. The width of the buffer is determined by the wetland management classification. The wetlands on this site currently are not assigned to a management classification. Management classifications are determined by conducting a wetland functional assessment using the Minnesota Routine Assessment Method for Evaluating Wetland Functions Version 3.1 (MNRAM). The MNRAM was not completed on this site during the RWMWD wetland assessment project due to lack of access at the time of that project. However, as part of this wetland delineation/wetland replacement plan application process, Barr has completed the wetland functional assessments using the MNRAM for all of the delineated wetland areas on this site. The results of the MNRAM assessments show that the functional ratings are low to moderate for all wetlands at the site. Functional assessment and vegetation community summaries are provided in Appendix H. Based on the MNRAM, the management classifications and corresponding RWMWD buffer requirements were determined as shown in Table 2.

Wetland A would require an average 25 ft. buffer with a minimum of 12.5 ft. surrounding the wetland. Given the existing conditions on this industrial site, there is limited potential for establishing a buffer around this wetland. The existing rail yard and access road to the north are immediately adjacent to the wetland. There is a parking lot with steep slopes and rip rap surrounding an electrical structure on the west side. The southern boundary is limited by the dump materials and contains compacted aggregate fill, which would likely not support native buffer vegetation. Figure 7 shows that the buffer requirements are not feasible due to the current boundary constraints on the site. Therefore, a variance of the buffer requirement is requested for this project.

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Tables

Figures